Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): A method for controlling a stepping motor, the stepping motor being connected to a controller and a loading device, the method comprising:

utilizing the controller for outputting a control signal to the stepping motor according to a target displacement and a first index parameter, wherein the term index parameter represents a number of driving pulses output from the controller to the stepping motor through the control signal that are required to move the stepping motor a predetermined displacement;

utilizing the stepping motor to move the loading device according to the control signal;

utilizing the controller for calculating a difference between the target displacement and an actual displacement of the loading device; and

utilizing the controller for generating a second index parameter according to the first index parameter, the difference, and the actual displacement.

2 (original): The method of claim 1 further comprising utilizing the controller to compare the difference and a threshold value, wherein if the difference is greater than the threshold value, the second index parameter is utilized to update the first index parameter.

3 (original): The method of claim 1 further comprising utilizing the controller to compare the difference and a threshold value, wherein if the difference is not greater than the threshold value, the first index parameter is held.

4 (currently amended): The method of claim 1 wherein the step of generating the second

index parameter comprises:

if the actual displacement is greater than the target displacement, utilizing the controller for calculating a deviation value between the difference and [[the]] a threshold value, utilizing the controller for calculating a modified displacement by subtracting the target displacement from the deviation value, and utilizing the controller for subtracting a compensation value from the first index parameter to generate the second index parameter wherein the compensation value is calculated from a product of the deviation value and the first index parameter divided by the modified displacement ~~; and~~

~~if the actual displacement is not greater than the target displacement, utilizing the controller for calculating a deviation value between the difference and the threshold value, utilizing the controller for calculating a modified displacement by adding the target displacement to the deviation value, and utilizing the controller for adding a compensation value to the first index parameter to generate the second index parameter wherein the compensation value is calculated from a product of the deviation value and the first index parameter divided by the modified displacement~~.

5 (original): The method of claim 1 wherein the stepping motor is applied to an optical disk drive, and the loading device is a pick-up head of the optical disk drive.

6 (original): The method of claim 5 wherein the stepping motor moves the pick-up head to generate the actual displacement for driving the pick-up head to locate a predetermined track on an optical disk.

7 (original): The method of claim 5 being performed while the optical disk drive activates a track seeking operation for the optical disk.

8 (original): The method of claim 4 wherein the controller comprises a digital signal processor (DSP) for calculating the second index parameter.

9 (cancelled).

10 (currently amended): The method of ~~claim 9~~ claim 8 wherein the DSP utilizes 2^R for representing a calculation result of the modified displacement divided by the first index parameter, R being an integer.

11 (original): The method of claim 10 wherein the DSP shifts R bits right to divide the deviation value by the calculation result.

12 (currently amended): The method of ~~claim 1~~ claim 2 wherein the threshold value is programmable.

13 (original): The method of claim 1 wherein the stepping motor is applied to a scanner, and the loading device is a scanning module of the scanner.

14 (currently amended): A controller for controlling a stepping motor, the stepping motor being connected to the controller and a loading device, the controller comprising:
a controlling device for outputting a control signal corresponding to a target position variation according to a target displacement and a first index parameter, wherein the term index parameter represents a number of driving pulses output from the controller to the stepping motor through the control signal that are required to move the stepping motor a predetermined displacement;
a driving device for driving the stepping motor according to the control signal to move the loading device;
a tracing device for tracing an actual position variation associated with the stepping

motor or the loading device driven according to the control signal; and

a calculating device for generating a second index parameter to replace the first index parameter according to the first index parameter, the target position variation, and the actual position variation when the difference between the target position variation and the actual position variation is greater than a threshold value.

15 (original): The controller of claim 14 wherein the calculating device calculates a deviation value between the difference and the threshold value.

16 (currently amended): The controller of claim 15, wherein the calculating device subtracts the target position variation from the deviation value to generate a modified position variation, calculates a compensation value from a product of the deviation value and the first index parameter divided by the modified position variation, and subtracts the compensation value from the first index parameter to generate the second index parameter when the actual position variation is greater than the target position variation ~~; and~~

~~the calculating device calculates a deviation value between the difference and the threshold; the calculating device adds the target position variation to the deviation value to generate a modified position variation, calculates a compensation value from a product of the deviation value and the first index parameter divided by the modified position variation, and adds the compensation value to the first index parameter to generate the second index parameter when the actual position variation is not greater than the target position variation~~.

17 (currently amended): The controller of claim 16 wherein the calculating device comprises a digital signal processor (DSP) for calculating the second index parameter ~~; and the DSP corresponds to a fixed-point architecture~~.

18 (original): The controller of claim 17 wherein the DSP utilizes 2^R for representing a calculation result of the modified position variation divided by the first index parameter, R being an integer.

19 (original): The controller of claim 18 wherein the DSP shifts R bits right to divide the deviation value by the calculation result.

20 (new): The method of claim 4 wherein the step of generating the second index parameter further comprises:

if the actual displacement is not greater than the target displacement, utilizing the controller for calculating a deviation value between the difference and the threshold value, utilizing the controller for calculating a modified displacement by adding the target displacement to the deviation value, and utilizing the controller for adding a compensation value to the first index parameter to generate the second index parameter wherein the compensation value is calculated from a product of the deviation value and the first index parameter divided by the modified displacement.

21 (new): The controller of claim 16 wherein the calculating device calculates a deviation value between the difference and the threshold; the calculating device adds the target position variation to the deviation value to generate a modified position variation, calculates a compensation value from a product of the deviation value and the first index parameter divided by the modified position variation, and adds the compensation value to the first index parameter to generate the second index parameter when the actual position variation is not greater than the target position variation.